EDITORIAL NOTES.

The article from Mr. Thos. Dollar, which we print on another page, refers to two important subjects. The first question—whether it is expedient for one man to hold the dual-appointment of Examiner and Councilman, is one which the profession should seriously discuss. It is certain to be prominent in April next, when the annual election of members of Council takes place, and the issue will be clearer if we make up our minds *now*, before personal considerations for the candidates are able to influence us.

The second question is also of first importance—Is it advisable to have full and correct reports of the General Meetings of Council? We have passed the time when it could be fairly said that our Council was a close corporation. We have now some independent members on our governing body, and we have at least three different parties in it strong enough to check each other, and to ensure plenty of verbal statements being made as to what goes on at Red Lion Square. These verbal statements may not always exactly represent what was really said or done, and the only fair and impartial course to adopt is to have published a transcript of the short-hand-writers' notes. It is over a century since the British House of Commons yielded the right of full reports of their proceedings being taken and published. Surely no argument is necessary to prove that our Body Corporate should submit to have their proceedings reported fully by independent writers. We have reason to believe that a fair proportion of the Council have already decided to acquiesce in this suggestion.

In the opening address of the President of the British Association, not a little eloquence was devoted to "prime movers." It is difficult to estimate the importance of these objects, and it is impossible to overrate their effect upon civilization. The steam engine, the hydraulic press, compressed air, gas and electricity "have succeeded in doing that which no expenditure of money or of life could enable us to obtain from muscular effort." Some portion of the enormous advances made in economically utilising these forces must be credited to the guiding and stimulating effect of collective bodies of men banded together for the direct purpose of assisting their progress. The British Association, The Iron and Steel Institute, and numerous other bodies, composed of all sorts and conditions of men interested in the manufacture, use and improvement of "prime movers" must have a great effect in facilitating their progress.

Interested as we are more directly in another "prime mover," the horse—one which we hold is quite as indispensible to man's welfare as any of these mentioned above—we cannot but think that some organization might be formed to do for the "noble animal" what existing societies have long been doing for the inanimate machines that tame and harness the forces of nature and render them servitors of man.

ARTICLES AND CASES.

THE REPORTING OF THE ANNUAL MEETING OF THE PROFESSION.

By Thos. A. Dollar.

It will be in the memory of your readers that at our annual meeting of 1887, an attempt was made to secure the independent reporting of what transpires at these meetings of the profession, but that this was then strenuously opposed by the President, who was supported by a majority of the members present.

The President, however, pledged his word that the profession should be furnished in the veterinary journals, with a verbatim account of all that passed.

That promise was, in some measure, kept in 1887, but I write to complain of the manner in which the reporting has been performed in 1888.

Hardly a tithe of the speeches made was reported and those which did appear were so treated as to convey a meaning entirely at variance with the design of the speakers.

To better illustrate my meaning, I will recapitulate what I then stated so that the profession at large may compare my *real* speech with the report of it which appeared in the journals.

I began by saying that the Council had had a very heavy task in the year just past, because, in addition to the ordinary business of the profession, they had had not only to appoint a new examining board but also to entirely revolutionize the system of examination, and I congratulated the President on the manner in which he had conducted the business of the Council.

Discontent had raged so high in the previous year that a split in the profession seemed imminent.

That this had not occurred I believed, was mainly due to the conciliatory action of our President, Sir Henry Simpson.

The action of the Council, at the instigation of his predecessor, towards the students of a certain college (whose conduct I, along with every lover of his profession, deeply deplored) was most unjust, high-handed, and illegal, but that the students *had* just cause for complaint there could be no better testimony than the action of the Council since—both in respect to the new examiners appointed and the changes that had been effected in the system of examination.

These changes, strange to say, had all been made on the lines laid down by the teacher, who, by showing that the students *had* grievances, had given the greatest offence to the Council and its then President.

In a paper "On the education and examination of veterinary students," read before the North of England Veterinary Medical Association at Newcastle-on-Tyne, on the 27th May, 1887, with respect to the changes requisite in the examinations, Professor McFadyean, the gentleman in question, laid down these four leading propositions:—

Firstly. That all examiners should be experts in the subjects on which they examine.

Secondly. That no examiner should examine on two subjects.

Thirdly. That there should be two examiners on each subject.

Fourthly. That no examiner should at the same time be a member of council.

To have proof that the first proposition had been admitted and acted on by the Council one had only to read the list of new examiners. The second and third propositions had also been adopted in their entirety. The fourth proposition did not find favour with the Council—who evidently had not sufficient self-abnegation to face it—or perhaps hoped the profession might allow them to keep this question in abeyance as a reward for the penance undergone in surrendering at once so large a measure of reform.

Nevertheless many members of the profession felt strongly that no member of Council should at the same time be an examiner.

That subject had not been taken into the consideration of the Council as it deserved.

The Council should have complete control of the board of examiners, but that was impossible so long as seven or eight councilmen acted in the dual capacity. It was altogether opposed to human nature to find fault with what one did oneself, yet members were and must continue in this position, so long as they both retained their seats on the Council, and acted as examiners, and I therefore proposed: "That in the opinion of the members of the profession here present, it is wrong in principle for a member of Council to act as an examiner." That motion was not carried, but I hope that at no distant period and at a more representative assembly, the Council may discover the disapprobation with which the mass of the profession views its grudging and short-sighted policy; and that this fourth proposition of Professor McFadyean's may also receive the recognition it deserves and take effect with its predecessors.

Before concluding this letter, I would also draw attention to the mode in which not only the annual meeting but also the ordinary meetings of the Council are reported and venture to hope that the much needed improvement may also be extended to these, so that the profession may be conversant with the doings and sayings of its representatives in Council assembled. When we cease to be dependent on such meagre and distorted accounts as have filtered through the hands of officials we shall become better acquainted with the *real* interests and purposes of those we have elected to the Council chamber.

An educational journal has just made a discovery. It is that at a certain University Club in London every seat set apart for letter writing is fitted with a dictionary, and it draws the inference that the reason is that our graduates cannot spell. But is not the existence of the dictionary in the club a sign of progress. There was a time when a "gentleman" was not expected to spell correctly or write legibly.—*The Echo.*

ACUTE THYROIDITIS IN A FOAL.

By G. Gartside Mayor, F.R.C.V.S., Kirkham.

So far as I can ascertain from the literature at my command, the condition of acute inflammation of the thyroid body, as a distinct disease, has not been noticed among our patients.

Reference to works on human medicine shows that although acute thyroiditis is recognised as a disease, still it is of very infrequent occurrence: Bryant says, "I have never seen such a case:" Semon, in Heath's Dictionary of Practical Surgery, says, "inflammation of a previously healthy thyroid gland is altogether rare." The British Medical Journal for 17th December, 1887, contains an account of a discussion on this subject at a meeting of the Clinical Society of London, which further emphasises the rarity of the affection, and it was mainly the reading of this article that determined me to put upon record the following case—a resolve now at length carried into effect—in the hope that as a contribution to the literature of our profession it might prove not uninteresting, even if not esteemed of much present practical value.

On the 24th May, 1882, my immediate attention was requested to a foal said to have "something the matter with its wind." On my arrival at the farm, I found my patient was a well-bred shire filly, only about fifteen hours old. The animal was staggering about the box with an anxious expression of countenance, and the "crowing" sound produced by the extremely laborious respiration at once attracted my attention to the neighbourhood of the larynx. Upon examination, I found that the left lobe of the thyroid was very much enlarged, and apparently by its pressure almost occluding the laryngeal opening; it was also extremely hot and tender. The animal was able to suck a little in an imperfect spasmodic fashion, almost every attempt to swallow being followed by a fit of coughing. General symptoms of fever were of course present.

Fomentations and inhalation of steam soon caused some slight measure of relief to be manifested, and after enforcing steady perseverance in these measures I left the place, promising to call again in a few hours. The operation of tracheotomy of course presented itself to my mind, but I was somewhat at a loss for an instrument sufficiently small for my young patient, however, I procured a human trocar and cannula, and as soon as possible drove down again to the farm, to find my patient very much worse, prostrate on the litter, apparently dying. The owner requested me not to interfere with the little creature, but to "let it die in peace," and I had some difficulty in persuading him to consent to my operating; however, I did so, and very shortly afterwards had the great satisfaction of seeing my juvenile patient (not yet quite 24 hours old) sucking with much more freedom than it had done in its short life before. On the following day the general symptoms were favourable, but the enlarged thyroid was much about the same; I applied a mild blister over the part, and within a

few days suppuration took place, after which the gland (?) gradually resumed its normal size, and about the tenth or eleventh day I finally removed the cannula from the trachea.

There was a slight cough for a few weeks, but that soon subsided, and the animal has remained perfectly well from that day to this, having bred three good colts in the meantime.

After the operation, I noticed a considerable flow of milk through the cannula whenever the animal was sucking; this at the time caused me considerable anxiety, for I did not then know that it is not an unfrequent occurrence—both in our patients and the human subject—for fluid to escape in this way, but I am still at a loss to understand how the fluid can get past the rima glottidis without exciting cough.

Recently when reading the account of the late lamented German Emperor's last days, I wondered much how it was that the escape of fluid through the cannula in the illustrious patient's throat, is reported to have caused apprehensions in the minds of his medical attendants that perforation of the œsophagus had taken place, which of course was proved on post-mortem examination not to be the case.

LARYNGEAL INVESTIGATIONS

By R. H. Clarke, M.A. M.B., M.R.C.S.

Fig. 1.

As I have had several applications for further particulars of the laryngoscope and electric lamp, mentioned in my article in the *Naval and Military Magazine* for last August; it may perhaps interest some of your readers if you have space to publish the enclosed diagram of the laryngeal mirror and lamp, which Mr. Piesse, M.R.C.V.S., of Redhill, has been good enough to draw for me.

Fig. I. shows the electric lamp, consisting of a small incandescent lamp, A, which rests on a vulcanite socket B, the wires from the lamp are connected with the battery circuit by means of two binding screws C C, which can be loosened, and the lamp detached and changed at will, D is a vulcanite cup lined with silver foil: inside it, at the narrow end, is a screw which corresponds to one on the socket B, and for use the cup is drawn over the lamp and a few turns screw it on to the socket and retain it in its place. The stem E. consists of two strong insulated copper wires which can be easily bent, and their terminations are connected with the cords from the battery G G—by binders F F. The battery, which I did not think it necessary to have drawn, is a small portable bicromate battery made and patented by Mr. Medland of 12 High Street, Boro,' it has four cells which are raised to the zinc and carbon elements with a screw, so that the strength of the current can be easily regulated; the battery only cost 15/-, it works exceedingly well, and I am quite satisfied with it. Mr. Medland also made the lamp which is shown in the figure. In my first lamps the vulcanite cups were a fixture and the wires were soldered, so that if the lamp went wrong the rest of the apparatus was useless; in this one another lamp can be easily substituted.

Fig. II.

The mirror which is shown, Fig. II., is the ordinary laryngeal mirror employed in human practice, it requires no description. None of these articles are expensive; I think the whole apparatus only cost about 30/-, but it is desirable to have an extra lamp in case of accident happening to one of them. The battery fluid is composed of 3 oz. each of bichromate of potash and strong sulphuric acid to a pint of water, it requires renewal every two or three days if the battery is used daily.

With regard to the mode of use, there is no difficulty about it. It is necessary to insert a tracheal tube first, and this should be rectangular or nearly so, I generally use my own or Mr. Jones' but one of Field's tubes, if a good size, does well enough. The tracheal tube should be inserted high up within three or four rings of the cricoid cartilage. Having bent the stem of the lamp to a right curve about 3 inches from the socket, and seeing that the light is bright, the operator takes the lamp in the left hand and the mirror in the right, and facing the horse, whose head should be raised by an assistant, the lamp is introduced through the tube and up the trachea. It may be held resting against the back of the trachea, just below the glottis and as much as possible to the operator's left side—next, holding the mirror in the flame of a spirit lamp for a few seconds and then testing it on the back of the hand to see that it is not too hot, the mirror is introduced through the tube to the back of the trachea; by slightly varying its inclination the whole of the larynx, the roof of the pharynx and the epiglottis will be brought into view. The larynx of the horse can be examined very well in sunlight by using a laryngeal reflecting mirror buckled on to the forehead or fixed to a spectacle frame as in Mackenzie's reflector, instead of an electric lamp. Ordinary daylight is hardly sufficient

for the purpose, the larynx can be seen but is not sufficiently illuminated. A parafin or gas-lamp may also be employed, but in this case there are so many moveable points in the course of the rays of light that I think the electric lamp is on the whole most convenient and reliable. I need hardly point out the absolute necessity of some method of inspecting the larynx for the intelligent employment of laryngeal surgery, not only to watch the results but still more, I think, to correct those crude notions of laryngeal physiology derived from manipulating the dead larynx, and forgetting that the larynx in this condition lends itself to the movement imparted by the fingers of the manipulator as readily as clay to the potter. It may or may not be interesting to know how the larynx ought to work according to the views of any particular demonstrator, but this has very little to do with the far more important question—how does the living larynx work in nature? This point is only effected by one mode of observation, and that is direct inspection of the iving parts.

NOTE ON THE ACTION OF THE HORSE'S STOMACH.

By William Hunting, F.R.C.V.S.

Bearing upon the question of why the horse so rarely vomits, I made an experiment upon two stomachs removed from horses, immediately after death. The organs had attached to them about 12 inches of œsophagus, and the same length of small intestine. By passing a stream of water into the œsophagus the contents of each stomach were washed out through the intestine. When, however, the flow of water was directed into the stomach through the intestine none escaped by the œsophagus. Even when the stomach was well filled and pressure by hands applied none escaped though the cardiac opening. The stomachs were then emptied and kept till next day, when it was found that the muscular tissue had "set" —was cold and firm. Both stomachs were soaked for a time in a pail of warm water till they became soft and pliable, the intestine, about three inches from the pylorus, was tied, and then air was forced through the œsophagus until the stomach was tightly distended. The bellows were removed, and no air escaped through the cardiac opening. One of the stomachs was left in a cistern of water to decompose for some days, but although the œsophagus was not ligatured, it remained distended until unfortunately destroyed by a dog. The other was placed on a table and its muscular coat cut through in a line extending from the middle of the greater curvature round to about a quarter of an inch from the junction of the œsophagus and stomach. The mucous membrane bulged very little and no air escaped. Then I divided the muscular coat of the œsophagus, beginning at its cut extremity, and not until I had divided the last bundle of fibres round the cardia and so reached the incision on the stomach did the air escape.

Now, if air passes easily from the œsophagus into the stomach but will not, even with considerable pressure, pass from the stomach through the cardiac opening, it cannot be merely muscular contraction that prevents it. Just after death there is no rigor mortis, nor when decomposition has commenced, so that we may safely say that no sphincter action of the cardiac muscular ring prevents the passage of air from the stomach into the gullet.

Escape of air immediately the muscular mass surrounding the cardiac opening is divided, demonstrates that the muscle is an obstacle, but not from any contractile property. It simply acts as an inert mass of flesh, and we must look for something within the stomach to account for why air may be easily forced in, but even by great pressure cannot be forced out. The further obstacle I believe to be the loose folds of mucous membrane, which are pressed up against the muscular mass and thus occlude the passage. This was the opinion expressed five and twenty years ago by the late Joseph Samson Gamgee of Birmingham, in an article on Vomition in the horse —an article which has apparently been lost sight of.

VETERINARY MEDICAL SOCIETIES.

NATIONAL VETERINARY ASSOCIATION.

THE DISCUSSION.

ON VETERINARY EDUCATION AND REQUIREMENTS.

(Paper by E. Faulkner, M.R.C.V.S., Manchester).

Mr. Wm. Hunting said, he should have had an easier task in opening this discussion if the essayist had not anticipated very nearly all his views. He would, in his few observations, consider the subject in the opposite order to that adopted by Mr. Faulkner. The first question was "What is required by the public from us?" For many reasons this was worth considering, our existence depended upon our success and that depended upon our supplying what the public desired. Artemus Ward said, "he had a well-balanced mind, i.e., one that turned either way the public required." He (the speaker) was afraid that social instincts made it desirable that we should have "well-balanced minds." The public were quite capable of judging our knowledge of animals so far as acquaintance with their points, habits, and peculiarities went. They expected such knowledge in us and were quick to value the man who did not possess it. They also expected other qualities such as attention, punctuality, method, etc., but they did not appreciate a thorough knowledge of the art of medicine and surgery. This art was defined by Voltaire as "pouring substances of which you know nothing into bodies of which you know still less" and if the definition were now not applicable to us all, it was fairly descriptive of the technical knowledge possessed by the average British public. The public knew nothing about our business and that is why they employed us. They were just as easily satisfied by the man who disguised his ignorance as by the man who

showed his skill. They did however recognise common sense, which was a quality that enabled its possessor to really understand most callings—including the veterinary. It seemed to him there was often a little confusion between the words Education and Intelligence. A man might possess either without the other. Both were valuable, but he did not hesitate to say that intelligence was the most important and the most uncommon. It was possible to educate a man above his intelligence. Just as it was possible to cram the stomach full when it could not digest, so it was possible to cram facts and theories into a brain incapable of assimilating and properly understanding them. No examination before a chartered body would prevent this—examinations were very human tests, capable of being satisfactorily faced by any man with moderate intelligence, and by men of less than moderate intelligence if they only worked hard. In divinity, law, and medicine could be found plenty of graduates with education out of proportion to their intelligence.

The Royal College of Veterinary Surgeons appointed a Board of Examiners, and it was said that sometimes this Board rejected a really good candidate and sometimes they passed a very inferior one. He quite believed they did—it was inevitable. To read some of the articles written about the examinations one would suppose that the veterinary was an excessively learned profession. He feared the standard of the examinations was quite high enough. It was wrong to expect a candidate for the diploma to show the same familiarity and knowledge of disease as a man who had been in practice for years. What was right to expect was that he should show exact knowledge of anatomical facts, an intelligent acquaintance with science and practical experience of every-day cases. He should, in short, satisfy his examiners that he possessed sufficient intelligence and knowledge to be permitted to practice with hope of his gradual improvement.

As to the choice of examiners he thought they should certainly be specialists—men with the widest and deepest knowledge of their subject. It was positively unfair to a student to submit him to examination, on such subjects as Anatomy, Physiology, Botany and Chemistry, by an amateur. As to which of our examiners were specialists he would rather not venture to indicate. He would, however, ask the profession to consider what special training all our examiners had undergone, and what really constituted a specialist.

Now as to the requirements of the pupil. The great requirement is brains, and then the will to use them both in College and out of it. Some years ago he had strongly objected to the proposed compulsory pupilage and he was glad to find Mr. Faulkner of the same opinion. He did not object to pupilage, he believed it was invaluable, if only the practitioner with whom it was passed were a good man. The advantages of pupilage were well set out by the essayist, and he would only just refer to one possible disadvantage, viz:—that the pupil received the impress of his master at the most impressionable period of life. This impress might be good and it might be bad. No worse thing could happen to a pupil than to be encouraged to think that science and art, or principles and practice, were two distinct and separable things. The young man so deceived, entered College with the sole purpose of obtaining his diploma, and looked upon the acquisition of knowledge as a sort of necessary evil which delayed and obstructed his path.

There was just one more question he would refer to—the method of electing our examiners. At the present time they were appointed half by themselves and half by other people. Now, the Council was undoubtedly the proper body to elect the examiners, and if the same men could hold both offices, this partial self-election must continue. He supposed if all the examiners now on the Council were removed, it would be possible to find men capable of taking their places, but the question then arose whether the change could possibly compensate for the loss of such remarkable talents as would be displaced. Unless the practitioners were clear upon this point they ought to be very careful not to make any alterations in the constitution of the Council at the next annual election.

Mr. Wolstenholme said, the subject matter before them was one of the greatest importance. The paper did great credit to the author and he hardly saw where it could be improved. He had, however, thought it might have been directed more to the higher education and further development of veterinary science and veterinary art to which some of them were looking forward. In the walks of science—medicine, pathology, and public hygiene—there should be no limits to their aspirations.

On the question of pupilage he held with those who would make it compulsory. The education of the student should be such as commended itself not only to the veterinary profession, but to the public at large. As general education advanced he trusted their Council would see fit to deal with and widen the present requirements. He hoped too that it might soon be possible to provide examiners from within the profession. By scholarships, endowments, and other ways, provision should be made for the further education of veterinary surgeons after they had obtained the diplomas of membership and fellowship. By such or similar means, they ought to be able to qualify men possessing the necessary ability, for the important posts of examiners and for other public appointments, the duties of which the public would be happy to see them perform.

Mr. Mayor said, although a young member, he claimed to have at heart as much as anyone the advancement of the profession. Mr. Faulkner in his paper—with most of which he agreed—said that the Council should be commended for the reforms they had made. He thought they should certainly not be for separating the final examination. It was a step to facilitate entrance to the profession. The examination was divided into two parts to make it easy for men to get through

by instalments who had been unable to pass at once. Why not go further and divide the examination into three or four parts and allow a man to pass piece-meal? He held that the interests of the profession were not well served by arrangements designed to admit men of insufficient ability.

The essayist had referred to the restrictions imposed by the vivisection laws upon research. He suggested that a resolution should be passed by the meeting declaring the incalculable bar they were to the completion of scientific investigations in pathology.

Professor Walley said, he practically agreed with the writer of the paper, and also with the remarks of other gentlemen in reference to the desirability of funds being raised to enable students to go on and further qualify themselves for their profession. The essayist had said that the matriculation examination should be "uniform at each teaching-school and in line with the present advanced state of education." He had no notion that they were not uniform. At the London, Edinburgh, and Glasgow Colleges, the subjects were the same and the per centage of marks also. So far as he was aware the examinations were uniform. Mr. Faulkner said students at College sometimes acquired bad habits, to which he would only say that too often young men did that without going to College at all. On page 7 Mr. Faulkner made a statement concerning which he should like to know which College it referred to. As far as his personal knowledge went he was not aware of any subjects the pupils could not learn at College if they would.

Mr. Kidd said, he believed that some practical knowledge of the profession was needed before the student went to College, but he did not agree with a compulsory pupilage.

He believed the time would come when the examiners would see it to be their duty to withdraw from the dual-office-holding. The Council should be our only Court of appeal, but as at present constituted it cannot be, more especially in matters affecting examiners. It was no secret that it was proposed to have another new Charter: some reforms might then be provided and the Board of Examiners should be separate and distinct bodies from the Council.

Mr. Faulkner replying to the discussion, thanked the members for the way they had dealt with his paper. His views and those of the opener of the discussion were nearly identical. He quite coincided with him that the examiners should be specialists, but he aimed at finding these specialists within the veterinary profession, and he hoped to see this accomplished through special and scientific education being continued after the diploma had been obtained. With regard to Mr. Wolstenholme and higher education, his views did him infinite credit, but he (the speaker) feared we could not rush these things, we must accomplish them by degrees. We must recognize existing conditions and extend as far as possible the present methods. When young men showed special aptitude, it would redound greatly to the credit of everyone if means were found whereby they might be encouraged to thoroughly master their subject. They would then have within their own ranks specialists fitted for the discharge of duties which now they had to call in outside assistance for. Mr. Mayor expressed an opinion that the nominator of an examiner should know something about him, but he (Mr. Faulkner) contended that this was not enough—the whole Council should also know before voting a man into such an important position. Whether the Matriculation examination was, as Professor Walley stated, now uniform everywhere he was not able to say. He was of opinion it ought to be.

The President proposed a vote of thanks to Mr. Faulkner and regretted that time had limited the discussions.

Professor Walley proposed a vote of thanks to those gentlemen who had opened the discussions.

Mr. Kidd proposed a vote of thanks to the President.

Mr. Wolstenholme proposed a vote of thanks to the Provincial Committee, and to the Local and General Secretaries, for their services in organising the meeting and carrying it out to such a successful issue.

These proposals being all seconded, and carried by acclammation, the President declared the meeting at an end, and the members dispersed.

OPHTHALMIA.

By Thomas Walley, M.R.C.V.S.

Professor of Veterinary Medicine and Surgery, Edinburgh.

Mr. President and Gentlemen,

Probably there is no branch of veterinary surgery to which less attention has been directed than this, and I am constrained to say that there is probably no subject on which veterinary surgeons display more obsolete notions.

Even the terms used by some, to distinguish its various forms, are ancient terms, and ought to be things of the past. I refer in this connection to the ordinary division of ophthalmia into *superficial* and *deep-seated*, or into *superficial* and *specific or periodic*. The use of such terms is justifiable in speaking to ordinary persons; they can scarcely be called scientific, nor in the case of one of them, *viz.*, "specific," correct.

The word specific has at the present day, amongst scientific men, at least, a very limited and very definite application and there is no one feature of the so-called specific ophthalmia that warrants the application of the term to it.

A strict adhesion to the minute classifications is not of so much importance in veterinary as it is in human practice, neither indeed can such fine distinctions be drawn in the former as in the latter. Moreover it is on the whole a rare thing for inflammation to confine its attacks to any one of the structures of the eye, as, assuming the existence of an independent inflammation in any one of them, it

would, and in most instances does, readily extend either by continuity or contiguity to another.

PREDISPOSING CAUSES.

Before proceeding further with my subject, it may be as well to glance at the *predisposing causes* of ophthalmia. In the front rank of these I shall place *hereditary disposition* which undoubtedly exercises as material an influence in animals as in man.

There are, I imagine, few V.S's who will question that hereditary influences exercise a large share in the production of this disease, but it is as well that we should understand at the outset the nature of these hereditary influences. The tendency that is handed down is a potential tendency, if I may use the term, and it is wholly dependent upon some inherent internal defect of the involved organ or organs, this defect rendering it or them more prone to be affected by adverse influences, if such are brought to bear, and it must be borne in mind that such liability may be acquired as well as inherited, and it is so acquired whenever the eye suffers from any form of organic or even (although to a less extent) of functional derangement. Even general debility may exercise an important influence in this respect.

The acquired tendency resulting from a previous attack is only such as is observed in all other organs under similiar circumstances, and there is no more a *recurrent* ophthalmia than there is a recurrent laminitis or a recurrent mammitis; nor is there any more a *periodic* ophthalmia than there is a periodic hepatitis; the recurrency and the periodicity being in all cases dependent upon accidental circumstances arising out of the surroundings of the animal itself and acting upon a structurally deranged organ.

At one period ophthalmia was one of the commonest diseases we had to treat, while to-day we meet with, comparatively, few such cases, and the question naturally arises—how is this? it may be answered in a few words. It is due to the warnings and admonitions against the use of diseased animals for propagative purposes, expressed in speech and by pen by veterinary surgeons all over the kingdom, and also to the greater care that is now taken of domestic animals from a sanitary point of view.

Climatic Influences probably have some share in predisposing to this as to allied affections, as we find that in certain countries ophthalmia exists to a much greater extent than in others—both in man and animals—but it must be remembered that in some cases climatic influences occupy only a secondary place in the production of ophthalmia, and that the surrounding conditions have more to do with its production than has any peculiarity of climate as such, and this perhaps refers more particularly to *change of climate.*

ACTUAL CAUSES.

Actual Causes may be arranged under the head of Idiopathic, Traumatic, Sympathetic, Parasitic, Metastatic and Specific, though some of them are predisposing causes also.

(1). *Idiopathic Causes* are more numerous than are any others; but even some of these may very well be included under the head of sympathetic. They are—irregularity of feeding, indigestion, plethora, debility, exposure to cold, or cold and wet, bad hygienic conditions, imperfect lighting, exposure to a super-heated atmosphere or to irritating gases, or to an atmosphere surcharged with irritant matters.

Irregularity of feeding probably exerts a deleterious action more by bringing about indigestion, and, as a result, mal-assimilation and mal-nutrition than by any direct influence on the eye itself; and it can easily be conceived that if there is any inherent structural weakness the eye is as likely to suffer from such influence as is any other organ; or, on the other hand, if such influences are brought to bear on the system, the super-addition of such other injurious influence, as exposure to cold, may be "the last straw that breaks the camel's back," for it is a matter of experience and within my knowledge that sheep in a state of semi-starvation exposed to cold, especially draughts—as from exposure in an open railway truck or on the deck of a ship,—are very apt to suffer, and in large numbers too, from ophthalmia.

Plethora undoubtedly exercises a material influence both in predisposing to, and in the production of, acute ophthalmia as of other forms of inflammation, and here again the influence is more pronounced in the sheep than in other animals.

Debility exerts its influence here in the same manner as it does in the case of all other forms of disease; it is only one link in the chain of events tending to produce or to excite the development of the affection; for imperfectly nourished textures, whether of the eye or any other organ, are especially liable to suffer from sudden nervous and muscular derangement.

Exposure to cold, or to cold and wet, like debility, predisposes to the affection in the first place by lowering the *vis vita*, and in the second place excites congestion and inflammation by bringing about sudden changes in the circulation of such delicate structures as those composing the eyeball.

Bad hygienic conditions, like the foregoing, exercise a dual influence; predisposing to disease by lowering vital energy, and exciting its developement—by favoring the retention of irritant gases or of irritant moisture in a stable or building.

Imperfect lighting. It is a generally accepted axiom (though here as in other cases there are exceptions to the rule) that the prolonged deprivation of light not only predisposes to eye affections, but excites their developement when the tendency to such exists; hence it is said that pit-horses are proverbially liable to become blind, and although it is not always true, it is so in my experience, at least to a tolerably large extent.

Prolonged exposure to the refraction of the rays of light from a snow clad hill-side in winter has long been recognised as the cause of a form of blindness (usually temporary) known as "snow-blindness." Doubtless the excessive constringing effects of cold on the capillary circulation, or the uneven distribution of blood it induces, exercises quite as great an influence in this direction as does refraction. In like manner prolonged exposure to the effects of the reflected rays of a burning sun from a bare hill-side, or chalk cliff, or lime-stone road, produces material

derangement in the optic circulation; but here we have the effects of excessive heat refraction in addition.

Amongst physiological irritants we may note the stings of venomous insects, such as wasps and gnats and of certain species of flies; and last, but not least, the irritant action of micro-organisms and it may be also the spores of fungi, or pollen grain. All who have had much experience amongst sheep are perfectly well aware of the fact that in the spring and summer these animals are frequently attacked in large numbers with ophthalmia, without those in charge of them being able to assign any cause for the attack, and not unfrequently has it been observed that the attack followed on the sheep gaining access (by trespass or otherwise) to woods and plantings near. It often happens that in such situations there is an abundance of wild flowering plants, and I think it can easily be understood that by the sheep rushing amongst these, large quantities of pollen grain would be liberated and this lodging on the conjunctival surface of the eye, would act as a powerful irritant in the same way as it causes schneiderial irritation.

In speaking of the action of physiological agents we must not forget that arsenic, potassic iodide, and even potassic bromide will, when administered in excess, induce catarrhal ophthalmia.

Traumatic Causes.—Injuries may be inflicted on the eye either externally or internally; the former varying from simple abrasions of the conjunctival layer of the cornea to loss of structure and actual penetration. They are inflicted by the stroke of a whip or stick, by thorns or bushes in animals jumping or rushing through hedges, by the claws of cats, the teeth of dogs, the spurs of cocks and the horns of cattle; by nails, hooks, &c., by pieces of glass, steel or other sharp objects lodging on the cornea; by stroke from horse's tail or by animals rubbing the eye against walls.

Sympathetic Ophthalmia is seen in one eye as the result of loss of function of the opposite eye, or as the result of inflammation or actual destruction of the eyeball, and it is particularly liable to occur when there is a continued source of irritation in existence: This form of ophthalmia is very insidious in its attack and may not make its appearance until the lapse of months or years after the injury. It is possible that it may in some cases originate in some centric disturbance in the optic tract itself.

Parasitic Ophthalmia may be external or internal. The former is due to the irritation of the filaria lachrymarum; it is of rare occurence in this country, but I exhibit specimen forwarded to me some years ago by Mr. Summers of Sidmouth. Internal parasitisism results from the irritation of filaria oculi (specimen of which I also exhibit) and occasionally in the human subject from hydatid cysts.

Specific Ophthalmia.—Specific forms of ophthalmia are seen in the horse during the course of effusive fever; in cattle in cattle-plague, and very exceptionally in tuberculosis; in sheep in sheep-pox; in pigs in swine fever; in dogs in gonorrhœa and distemper, and in poultry in tuberculosis. The only other forms of specific ophthalmia, properly so-called, which I have met with are those cases of purulent inflammation sometimes met with in dogs, and which are apparently contagious; and erysipelatous inflammation (also in dogs) as an extension from the face and eyelids.

SYMPTOMS AND COURSE OF EXTERNAL OPHTHALMIA.

The local symptoms are more or less swelling of the eyelids; more or less ptosis and photophobia; distension of the superficial veins, throbbing of the adjacent arteries, heat and tenderness on pressure; at the outset profuse lachrymation due to irritation of the lachrymal glands which gives place in due course to muco-purulent matter or croupous products. On carefully everting the lids the conjunctiva will be seen to be injected and swollen (dropsical), there may be ecchymosis and even hœmorrhage, and in the most acute forms, the conjunctiva frequently presents a jelly-like appearance. The corneal conjunctiva is in some instances also infiltrated with serum or even lymph, producing *chemosis* which may extend over the whole surface of the globe—this is best seen in effusive fever of the horse. As time goes on the cornea becomes involved; it becomes opaque from effusion of lymph into its structure which may be of a pure white or of a yellowish colour. The corneal vessels become dilated and new vessels, having a looped distribution, are quickly formed.

In *Purulent Ophthalmia*, the discharges are from the outset of a purulent and destructive character, setting up irritation of the edges of the eylids and of the *meibomian follicles*, consequently the secretion of the latter becomes agglutinous and produces adhesion of the eyelids. It is in this form more than in any other that we have to dread destruction of the cornea either by progressive ulcerative keratitis or by rapid softening and breaking up of its constituent elements —diffuse *suppurative corneitis*. Collections of pus, too, often take place in the deep layers of the cornea, producing corneal abcess, or, if situated at the lower part, *onyx*. It is in this form too that we have to dread penetration of the cornea and evacuation of the humours and also partial or total *staphyloma*.

The *Symptoms of Traumatic Ophthalmia* are, 1st, those of ordinary inflammation, but in addition we have the existence of the wound itself. This may be in the form merely of the loss of several layers of the conjunctiva without any opacity; on the contrary, it may be in the form of extensive loss of structure with great opacity and the rapid formation of circumferential vessels.

Foreign Bodies may become surrounded by, or imbedded in, masses of lymph, which may for a time hide them from observation.

INTERNAL OPHTHALMIA.

Symptoms of *Internal Ophthalmia.*—Many of the symptoms first noticed may be present here, and should it be complicated with corneitis its existence may not be detected until the cornea clears up. In all cases, the eyeball, if carefully manipulated, will be found much more tense than normal and the animal resents in a marked degree the application of pressure thereto; photophobia is also well-marked. If the membrane of the aqueous humor is the seat of inflammation, it will be observed that the posterior surface of the cornea becomes opaque from thickening

of the membrane and deposition of lymph, which may be of a white or yellowish colour.

In *Iritis*, the iris is at first seen to be injected and very irritable and myosis is more or less marked; in a very short time however, the iris becomes opaque from the exudation of masses of lymph and not infrequently these are found on the papillary edges producing adhesion.

If the pupil is not closed it will be observed that the capsule of the lens has become opaque. As time goes on, the lymph thrown into the anterior chamber may degenerate into pus, and produce the condition known as *hypopion*. The thing however that we have most to dread in addition to adhesion of the pupillary margin, is adhesion of the iris to the membrane of the aqueous humor, or to the anterior capsule of the lens, or to both these structures; constituting partial or complete *synechia*.

Posterior Internal Ophthalmia constitutes the *Acute Glaucoma* of the oculist. In this condition, the tension of the eyeball is materially increased, and the appearances presented are characteristic. On looking carefully into the eye it will be observed that the iris is forced close against the posterior surface of the cornea, it has a dull appearance, and its vessels are materially distended. The pupilary margin may be retracted, but there is no exudation of lymph on to its surface. It is also sluggish in its movement, even under the influence of stimuli.

The interior of the eye has a dim appearance, and by using transmitted and reflected light it will be seen, that with the former the lens has a peculiar amber colour, while with the latter it has a somewhat sea-green appearance; in course of time the lens may become opaque.

The white of the eye is usually congested and even the posterior layers of the cornea may be slightly opaque from pressure of the aqueous humour. The great danger to be apprehended from this form of ophthalmia is *permanent blindness*, *dissolution* of the *hyaloid membrane* and *displacement* of the *lens*, *liquefaction* or *permanent opacity* of the latter body—*cataract*.

Choroiditis can sometimes be distinguished by the peculiar arrangement of the greatly distended *vena vorticosa*, which can be readily seen by the aid of the *catoptric test*, and by the ophthalmoscope: in a short time, however, this excessively vascular condition may be obscured by the exudation of lymph.

TREATMENT.

The *Therapeutic indications* for the *treatment* of *any form* of *ophthalmia* are

Firstly—To reduce inflammatory action.
Secondly—To give the parts physiological rest.
Thirdly—To relieve tension.
Fourthly—To favour absorption of inflammatory products.
Fifthly—To prevent consolidation of such products and the formation of new tissue.

Several of these indications are brought about by the same means.

In all cases the animal should be placed under favourable hygienic conditions; kept as quiet as possible and light excluded. Diet should be low and of a laxative character. Laxative medicines are always useful, but I have little faith in the administration of strong purgatives. Aloin and calomel being, both in the dog and horse, most useful and less irritant than aloes itself.

Anti-pyretics may be administered if the symptoms seem to demand them. Aconite and neutral salines being most useful.

In debilitated animals tonics may be required. In specific cases treatment generally applicable to such should be resorted to.

Locally, the eye may be bathed and thoroughly fomented with the infusion of arnica, camomile, or poppy heads.

Local blood-letting by opening the anglionial vein, or by free scarification of the conjunctiva, is of the greatest use; the latter is especially indicated when the conjunctiva is much swollen and injected, as also when chemosis is marked, and may be practised either by the lancet or by probe-pointed scissors, previously anœsthetising the parts with cocaine.

The local applications in external ophthalmia which I have found of most use, are, solutions of acetate of Lead or zinc, combined with infusion of arnica or aqua opii. The objection to the use of lead entertained by some practitioners on account of its forming the insoluble chloride with the tears is a theoretical one, and even if a little harm does result it is more than counter-balanced by the good gained; such at least has been the experience in my own case.

In more severe cases, especially those marked by great sluggishness of the circulation, alum, with or without acetate of lead, or alternatively sulphate of zinc is most useful—cocaine or belladonna, or in preference atropine, are useful as sedatives.

In Purulent ophthalmia such germicides as bichloride of mercury, chloride of zinc, carbolic acid or iodine may be required—iodoform and tannic acid have both been lauded in these cases; my experience of these agents has not impressed me with their utility.

The insertion of setons and the application of blisters to the skin of the cheek, are sometimes of the greatest possible use in sub-acute or chronic cases.

If opacity of the cornea persists after the subsidence of the active symptoms, a solution of potassic iodide may be applied to the surface of cornea, and potass iodide and calomel administered internally. The projection of powdered carbonate of ammonia, of calomel, or of powdered sugar is largely practised and is undoubtedly useful. It must be understood that if the cornea has become pigmented, as so often happenes in pug dogs, or if interstitial changes are marked, treatment may be of little avail though even here it should be persevered with for a time.

If ulceration of the cornea commences it should be at once checked by the use of nitrate of silver. In human practice the galvano-cautery has been substituted for lunar caustic, with the best results in each case; the object aimed at is the destruction of the micro-organisms which are always present in the spreading zone.

When the cornea becomes very vascular, free scarification, with the application of belladonna, is indicated.

In anterior internal ophthalmia the great object to be obtained is the prevention of the adhesion of the iris, and the relief of its overcharged vessels. For this purpose atropine is indicated, or a combination of cocaine and atropine.

After the susidence of acute inflammation, iodide of potass and calomel should be freely administered.

In acute glaucoma *atropine* is *hurtful*, more good will be derived from a weak solution of eserin in combination with cocaine. Surgical treatment however is of much greater value, and I am satisfied that many eyes might be saved if paracentesis, either through the cornea or sclerotic, was had recourse to more frequently. Iridectomy should also be practised; I have seen good results follow the operation in the dog; here too iodide potass and calomel should be administered immediately the active symptoms have subsided.

In retinitis I have found cocaine more valuable than any other remedy.

In the case of the lodgment of foreign bodies, an attempt should be made to remove them: fortunately there is now little difficulty in doing this by the aid of cocaine, but I would just remark that the putting of the head in different positions favours the operation, especially in cattle, by altering the position of the eye-ball.

(Condensed from a paper read before the Royal Counties Veterinary Medical Society,)

EXTRACTS.

THE HEARING OF FISHES.

Can fishes hear?

If it be asked whether they hear at all, we must unhesitatingly reply in the affirmative. If information be sought as to whether they hear as we do, our decision may as unhesitatingly be given in the negative. And, thirdly, if it be suggested that, while submerged in the water, they can distinguish sounds in the air, we must treat this proposition as one open to considerable doubt. And to these three points let us now devote our attention in turn.

Do fishes then hear at all? We may reply, as already stated, without a moment's hesitation, that they do. For in them we find the first rudiments of the auditory organs which attain to such perfection in the higher vertebrates; and in many cases, to use a somewhat Hibernian expression, these rudiments are present in a fairly complete state.

It is true that fishes possess neither external ear, Eustachian tube, nor tympanic cavity; but that affords us no proof whatever that they do not hear. Water is so much more dense a medium than air that its vibrations are and must be carried to the brain of any animal submerged therein, whether that animal possess ears or no. And the internal ear in the fish is so formed that any such vibrations must be keenly felt and appreciated, although of course not in the same degree as in animals whose sensory apparatus is more perfectly developed.

Water as a denser medium, transmits vibrations with so much greater intensity than air that a submerged animal possessing ears adapted for the reception of atmospheric sound would be literally stunned by such a shock as that resulting from a heavy blow upon the surface.

And any one who wishes to test for himself the qualities of water as a conductor of vibration can do so by submerging himself two or three feet, and allowing a companion to strike with a stick or an oar the surface immediately above him. The experiment is one which he will not find it necessary to repeat.

Whether fish can appreciate sound, as we understand the word, is another question altogether, and one which can be almost certainly answered in the negative. For sound, in our ordinary acceptation of the term, is an atmospheric phenomenon only, and cannot be transmitted from the lighter medium of air to the denser medium of water.

How then can we hold that fish hear atmospheric sounds, seeing moreover that they possess no external ears whatever, and that even the internal auditory apparatus is so very far inferior to our own? Vibration, even of the water itself, must necessarily reach them with greatly dimished intensity: and how is it possible for them to succeed in hearing sounds which to animals with senses far more highly organised are, and must be, perfectly inaudible?

But how, it may be asked, are we to account for the many reports of fishes recognising the sound of a bell, the blast of bugle, or the shrill call of a whistle, and hastening to the accustomed feeding-places in anticipation of food to follow.

Again the explanation is obvious enough. In one at least of the instances referred to, and in that which is best authenticated, the custodian of the fish was invariably accustomed to drive to the reservoirs in a tolerably heavy cart; and it is evident enough that the sound which brought the fish to the feeding places was not the stroke of the bell by which they were apparently summoned, but the vibration caused by the wheels, which was conveyed through the earth to the water. Sound cannot be communicated from the lighter medium to the denser, but from the denser to the lighter it can. And the rumbling of a heavy cart would certainly be quite audible to fish in a neighbouring pond or stream. Even a heavy footstep near ths bank will frighten the fish lying beneath it, as many an angler has discovered to his cost; he who wishes to capture them must tread lightly, in addition to keeping himself concealed.

But the appreciation of vibration conveyed in such a manner, and reaching the brain without passing through external auditory organs *en route*, is not hearing in the strict sense of the term; it is merely the shock arising from a veritable blow. And thus fishes, in the ordinary interpretation of the term do not hear. Such auditory apparatus as they possess, however, enables them to appreciate with greater nicety vibrations which would probably be in some degree appreciable had they no such apparatus at all; they can detect sounds in the water without difficulty, and sounds in the earth, if not too far from land, with tolerable ease. But sounds in the air, it is not too much to say, they cannot hear at all, unless in some way associated with, or implying, a corresponding concussion of the water.—*Scientific News*.

NOTES AND NEWS.

The Omnibus Horses of Paris.

M. Eugène Gayot has recently published some interesting and important particulars respecting the omnibus horses of Paris for the year 1887. He shows that the general effective staff numbered on the 31st December 12,822 horses, of which 12,675 were daily used for draft purposes. Formerly the horses were principally composed of stallions, but geldings have been used since 1865, and six years later mares were introduced into the stables, since which time the effective work has been considerably increased. There are some who believe that the stallions have been the most valuable, but experience has demonstrated quite the contrary, and after an experience of 23 years it has been found possible to classify the three orders in accordance with the proportion of each which have been disposed of yearly. Thus the percentage of geldings sold has been 10·78, of mares 11·28, and of stallions 13·44.

The proportion of horses of 4 to 10 years has increased from 50 per cent. to 60 per cent.; young horses, properly so called, have increased from 70 per cent. to 75 per cent. Forming 3 categories of the 6 represented by a table prepared by the Omnibus Society, it is found that the horses of 4 and 5 years are 19·56 per cent. of the whole, while those of 13 years and upwards are 24·30, while those of the intermediate ages, 6 to 12 years inclusive, are 56·14 per cent. During the year the Omnibus Company of Paris, to whom these details refer, purchased 2,219 new horses, or 17·30 per cent. of the effective staff. M. Gayot makes a number of practical remarks upon the use of the entire horse, in one of which he questions the weight of this great eater when purchased and two or three months afterwards; and how many, he asks, are placed in the infirmary during their first year? This question is answered. Of the 2,219 horses, it appears that 1,765 were ill, an enormous proportion—79·54 per cent., and that only 443 submitted to their work without sickness, or about 20 per cent. Then we come to the question of price. In his report, the director of the society says that the horse, like other agricultural productions, has submitted to a serious depreciation, and after being augmented in 1880, the price has since that date descended from an average of £51 to £37 12s. to-day, or a diminution of over 26 per cent. per head. Then follow some remarks about the clipping of the horses, which commences every year in the first week of November. Last year the work was carried out upon 6,360 horses, and upon a somewhat new plan. It had been found in previous years that considerable inconvenience arose from the employment of the new clippers, which cut the hair too close to the skin. Last November clippers were used in which the plates were much thicker than those commonly sold. This enabled the workman to leave a greater length of hair upon the body. The success was complete, and the plan will be carried out upon a much larger scale during the present year. The cost of clipping amounted to £560, while the hair was sold for the sum of £27 10s. The daily journeys of each horse remain about the same as hitherto. Upon tramways each horse does an average of about 18 kilomètres, or rather more than 11 miles; but there is a limit of 16⅓ kilomètres, or 10 miles odd, for omnibus horses. This is found to be the maximum amount of labour which can be imposed upon horses, at this kind of work. Shoeing is another point to which attention has been given. The cost has already been diminished, thanks to the employment of machine-made nails, and to the increasing number of the varieties of steel and iron employed for shoe making. The cost per day per horse is about 10½ centimes. The production and sale of manure is a matter of considerable importance where nearly 13,000 horses are kept. The price of the ration of each horse has been reduced to about 18½d. In 1887 it was composed of about 17lb. of hay and straw and 18½lb. of oats, maize and beans. As a matter of fact, however, the horses in full work really receive a somewhat higher mixed ration, while the new horses which have not been fully accustomed to work receive progressive rations. The company bought oats, hay, and straw at the following average prices per 100lb.:—Hay, 6s. 6d.; straw, 4s. 6d.; oats, 13s. 2d.—*Yorkshire Post.*

An Opening for Veterinary Talent.

There is not a single veterinary surgeon in Tokio, and in Japan about £6,000 of horse-flesh is ruined every year for want of the most ordinary care and attention, and 20 per cent per annum in usefulness taken out of the remainder. There is room for fifteen or twenty good veterinary surgeons in Tokio alone.—*The Japan Gazette.*

A Double-bodied Sow.

Some time ago an english resident at Canton, Mr. Pitman, bought a curious monstrosity—a sow with six legs. The front part of the body is single, that is, the animal has one head, one thorax, and two front legs. Behind all the organs are double. M. Bezaure, the French Consul at Canton, persuaded Mr. Pitman to let him have this strange creature for the Paris Museum of Natural History, where it may now be seen. It is white, with great black spots and appears to be in perfect health. An account of it, by M. Charles Brongniart, of the Museum of Natural History, appears in the current number of *La Nature*. The separation of the two trunks seems to begin after the dorsal vertebræ. The animal is so fat that this point, however, cannot be precisely determined.

CORRESPONDENCE.

THE MATRICULATION EXAMINATIONS.

Sir,

Whilst agreeing perfectly with all that Mr. E. Faulkner, of Manchester, in his paper on Veterinary Education says about the necessity for the Test Examination, and for advance, and reform in its details; kindly allow me to give a few facts as to the conduct of this examination in a certain College.

On the occasion to which my letter particularly refers, the following was the order of things.

Printed questions were handed to the Candidates, who were seated as they pleased with regard to one another. The Examiner then left the room, leaving a first-year's student in charge. The natural, and, I regret to believe the usual thing of course ensued: copying, talking, comparison of notes, and a free use of books, which the fellows brought in their pockets for the purpose.

One candidate told me afterwards—and I can vouch for the truth of the assertion—that he knew no latin whatever, and had copied all his Cæsar from a "crib," and his arithmetic from his neighbour.

Another fact which I may mention is, that, should a candidate fail to pass this "Examination" he is yet suffered to enter the College, and being allowed a certain period for "study" goes through the ordeal again in private. Even to the man who enters in this way the result is often a disastrous waste of time and money, as he is incompetent to overcome the difficulties of future examinations, and finally is compelled to abandon the attempt. Changes are no doubt necessary in the composition of the Matriculation Examination, but they will be of no avail unless administration of it like the above is stamped out.

Yours faithfully,

X. WHYSHED.

DR. FLEMING'S OPERATION FOR ROARING.

Dear Sir,

I have no doubt it will be interesting to the members of the profession to know that the two horses operated upon for roaring, by Professor F. Smith, during the annual meeting of the National Veterinary Association held in this city on July 18th, are, up to the present, no better. Both are bad grunters, and upon the slightest exertion make as much noise as ever.

Yours truly,

Newcastle-on-Tyne. GEORGE ELPHICK.

Sir,

It is really a great pity—if it does not justify a stronger term—to write as Mr. Hunter does in your last issue, and on the strength of only one operation, which must have been quite exceptional, to persuade any nervous and shaky old gentleman that, beyond a scalpel and pair of forceps, it requires nothing but a two ounce phial of chloroform and a pocket handkerchief to undertake the treatment and cure of roaring in horses. I have had a large experience in chloroforming horses, but never saw one anæstheticised yet with 1½oz. of chloroform; and would gladly go all the way to Newcastle to see this feat repeated. On the other hand I have known a horse inhale nearly three pints of chloroform in the course of an operation, and take an hour to become fully under its influence, but I should not be justified in quoting such a case as a fair sample of what may be expected. Mr. Hunter's remarks about hæmorrhage are just as misleading. In some cases the larynx may be opened with scarcely any bleeding, in others it is very considerable, and requires the greatest possible care to prevent its entering the lungs.

Prophecy has been called a gratuitious form of error, but I will make bold to hazard this conjecture: that for a short time after the wound has healed Mr. Hunter will find his horse improved, but three months later, if not before, it will be as bad as ever.

Yours faithfully,

Leicester. F. B. JONES, M.R.C.V.S.L.

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